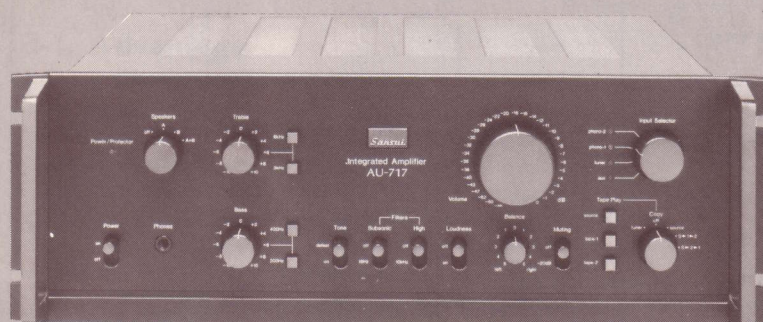


SERVICE MANUAL

INTEGRATED STEREO AMPLIFIER

SANSUI AU-517/717



SPECIFICATIONS

AU-517

Power output

Min. RMS, both channels driven, from 20 to 20,000 Hz, with no more than 0.025% total harmonic distortion
65 watts per channel into 8 ohms

Load impedance 8 ohms

Power bandwidth 20 to 20,000 Hz at or below rated min. RMS power output and total harmonic distortion

Total harmonic distortion (POWER AMP IN)

. less than 0.025% at or below

rated min. RMS power output

Intermodulation distortion (70 Hz: 7 kHz = 4:1 SMPTE method)

. less than 0.025%

Frequency response (at 1 watt) (POWER AMP IN)

. 0 to 20,000 Hz +0 dB -3 dB

RIAA curve deviation (PHONO) +0.2 dB -0.2 dB

(20 to 20,000 Hz)

Damping factor approximately 60 at 8 ohms load

Input sensitivity and impedance (1 kHz, for rated power output)

PHONO 2.5 mV/47 kilohms

(Max. input capability: 320 mV at 1 kHz, less than 0.01% harmonic distortion)

AUX, TAPE 150 mV/47 kilohms

Output level (1,000 Hz)

TAPE REC (pin jack) 150mV/47 kilohms

PRE OUT 1V/47 kilohms

Channel separation (1 kHz, at rated power output)

PHONO better than 60 dB

AUX better than 65 dB

Hum and noise (short-circuit, A-network)

PHONO 78 dB

AUX 100 dB

Controls

BASS +10 dB (50 Hz)

TREBLE +10 dB (15 kHz)

SUBSONIC FILTER -3 dB (16 Hz), 6 dB/oct

LOUDNESS (-30 dB) 9 dB at 50 Hz

7 dB at 10 kHz

Power requirements

Power voltage 100, 120, 220, 240V (50/60Hz)

120V (Usable 110 - 130V)

60 Hz (for U.S.A. & Canada only)

Power consumption

Maximum consumption 660 watts

Rated consumption 345 watts 420 VA

Dimensions 430 mm (16-15/16") W

168 mm (6-5/8") H

389 mm (15-3/8") D

Weight 18.5 kg (36.4 lbs) net

18.5 kg (40.8 lbs) packed

* Design and specifications subject to change without notice for improvements.

Sansui

SANSUI ELECTRIC CO., LTD.

1. SPECIFICATIONS

AU-717

Power output

Min. RMS, both channels driven, from 20 to 20,000 Hz, with no more than 0.025% total harmonic distortion
85 watts per channel into 8 ohms

Load impedance 8 ohms

Power bandwidth 20 to 20,000 Hz at or below rated min. RMS power output and total harmonic distortion

Total harmonic distortion (POWER AMP IN) less than 0.025% at or below rated min. RMS power output

Intermodulation distortion (70 Hz: 7 kHz = 4:1 SMPTE method) less than 0.025%

Frequency response (at 1 watt) (POWER AMP IN) 0 to 200,000 Hz +0 dB -3 dB

RIAA curve deviation (PHONO) +0.2 dB -0.2 dB (20 to 20,000 Hz)

Damping factor approximately 60 at 8 ohms load

Input sensitivity and impedance (1 kHz, for rated power output)

PHONO 2.5 mV/47 kilohms
(Max. input capability; 350 mV at 1 kHz, less than 0.01% total harmonic distortion)

AUX, TAPE 150 mV/47 kilohms

Output level (1,000 Hz)

TAPE REC (pin jack) 150 mV/47 kilohms

PRE OUT 1 V/47 kilohms

Channel separation (1 kHz, at rated power output)

PHONO better than 60 dB

AUX better than 65 dB

Hum and noise (short-circuit, A-network)

PHONO 78 dB

AUX 100 dB

Controls

BASS ± 10 dB (50 Hz)

Tone selector 200, 400 Hz

TREBLE ± 10 dB (15 kHz)

Tone selector 3, 6 kHz

SUBSONIC FILTER -3 dB (16 Hz), 6 dB/oct

HIGH FILTER -3 dB (10 kHz), 6 dB/oct

MUTING -20 dB

LOUDNESS (-30 dB) 9 dB at 50 Hz

7 dB at 10 kHz

Power requirements

Power voltage 100, 120, 220, 240V (50/60 Hz)
120V (Usable 110 - 130V)
60 Hz (for U.S.A. & Canada only)

Power consumption

Maximum consumption 735 watts

Rated consumption 425 watts 500 VA

Dimensions

430 mm (16-15/16") W

168 mm (6-5/8") H

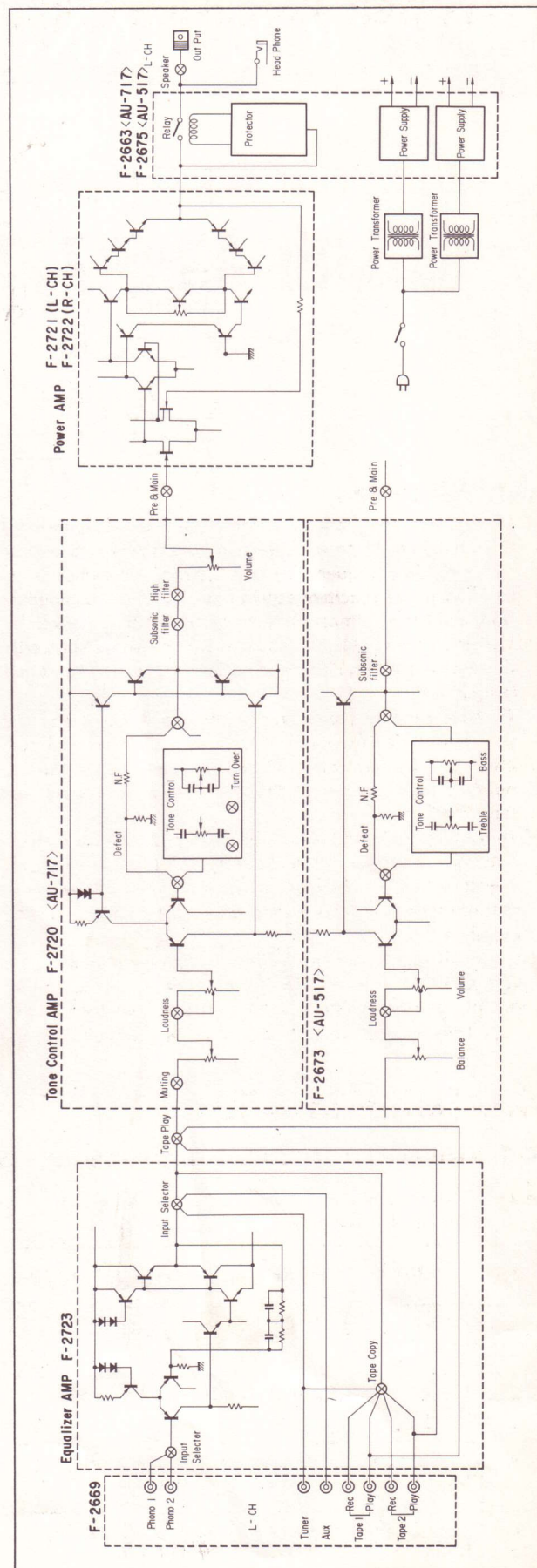
389 mm (15-3/8") D

Weight

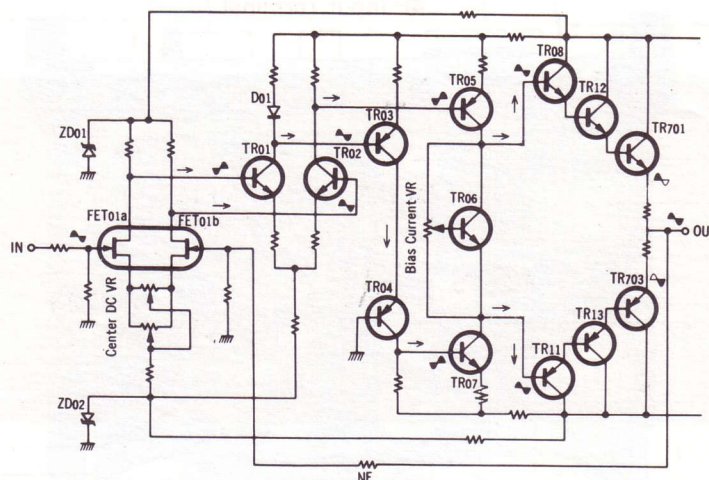
17.8 kg (39.2 lbs) net

19.8 kg (43.7 lbs) packed

2. BLOCK DIAGRAM



3. ADVANTAGE AND OPERATION OF POWER AMPLIFIER CIRCUITRY SECTION



3-1. Advantage

- ◇ There is necessity not to decrease the phase response till DC range in order to increase the music signal response of extremely low frequency range. Therefore, this amplifier is employing no capacitors except ones for phase compensation, and has an almost perfect transient characteristics.
- ◇ The first stage FET (2SK97) is a dual FET of even characteristics and has a large G_m and no-leakage current at normal temperature.
To avoid the influence by temperature drift, such as center voltage (0V) deviation, this FET is used as differential amplifier and operates at cross point which is the optimum point of drain current (at about 3mA) against the temperature drift.
- ◇ Transistors, TR05 and TR07, the push-pull pre-driver stage functions as current differential amplifier that the stabilized operation can be obtained. In addition, the collector current of these transistors is enough high to make linearity excellent.
- ◇ Since this Amplifier employs phase advancer circuits [C06, C08, C15, R29, C16 and R30], which have not been frequently used, to compensate the phase characteristics on high frequency range and is also made to have enough

current on each stage to increase the through-rate, the performance on high frequency range is conspicuously improved.

- ◇ To avoid the voltage deviation, regulated power supply circuit composed of ZD01, ZD02 is employed.

3-2. Operation

The use of differential amplification at first stage dual FET, (FET01, FET02) and connection of the FET to the differential amplifier composed of TR01, TR02, make possible to obtain enough gain and remarkable low distortion.

The output signals of TR01 and TR02 are antiphase.

The output signal of TR02 adds to TR05, on the other hand, the output phase of TR01 is inverted by TR03, then, it becomes input signal of TR04 and TR07 which are cascoded connection.

The output signals at TR05 and TR07 are inphase that the operation of this stage is push-pull drive and current differential amplification. The power amplifier of the final stage is composed of SEPP (Single Ended Push-Pull) symmetry complementary in 3-stage darlington connection type.

TR09 and TR10 are composing current limiter circuit to protect power transistor from break-down by overload.

4. ADJUSTMENTS

4-1. Driver Circuit Board Adjustments (See the picture of top view on page 3.)

Note: 1. Master Volume.....Minimum
2. Room Temperature.....

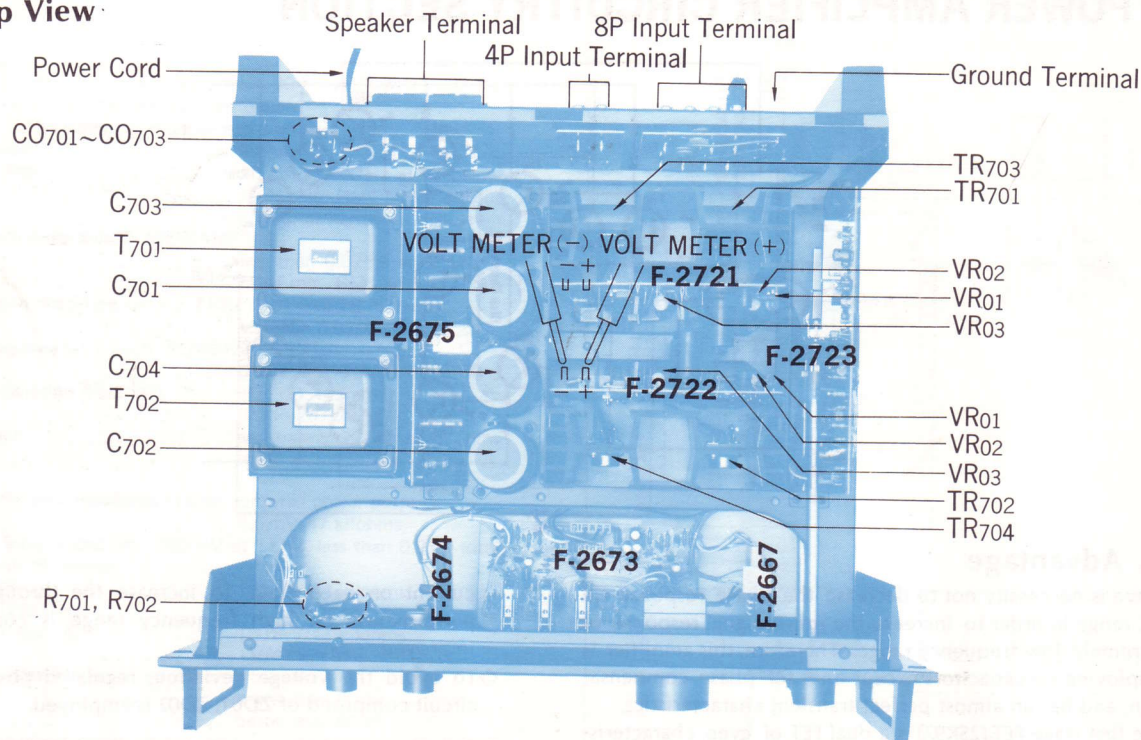
3. For adjustment, run the unit for more than 3 minutes after the power is switched on.

| STEP | SUBJECT | EQUIPMENT | MEASURE OUTPUT | ADJUST | ADJUST FOR | CONDITION |
|------|-------------------|---------------|-------------------------------|----------------------|-------------------|--|
| 1. | DC 0V L-CH | DC Volt Meter | Speaker Terminal | F-2721 VR01, VR02 | DC 0V \pm 5mV | <ul style="list-style-type: none"> ◦ Set VR01 and VR02 to center position. ◦ Then, for the purpose of proceeding the accurate adjustment, set the voltage to 0 volt by VR01 first and VR02 next. |
| 2. | DC 0V R-CH | Same as above | Same as above | F-2722 VR01, VR02 | DC 0V \pm 5mV | |
| 3. | Bias Current L-CH | Same as above | TP Terminal (+) (-) of F-2721 | F-2721 VR03 | DC 20mV \pm 1mV | <ul style="list-style-type: none"> ◦ By turning VR03 counterclockwise, the bias current is decreased gradually. |
| 4. | Bias Current R-CH | Same as above | TP Terminal (+) (-) of F-2723 | F-2722 VR03 | DC 20mV \pm 1mV | |

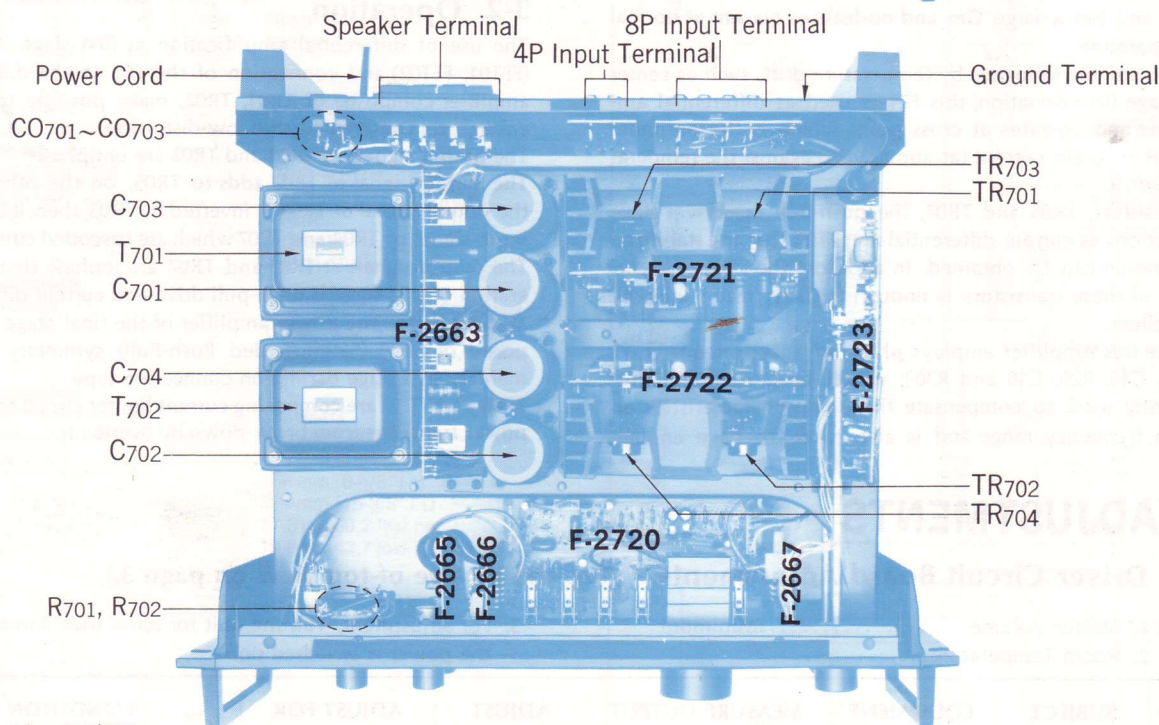
5. OTHER PARTS

5-1. Top View

<AU-517>



<AU-717>



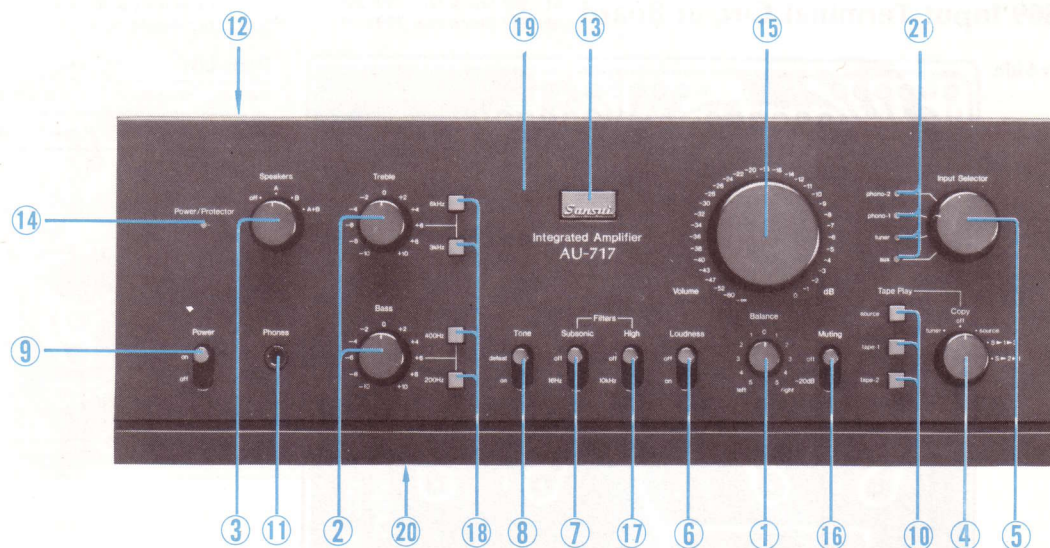
Parts List <AU-517/717>

| Parts No. | Stock No. | Description |
|-----------|-----------|----------------------------|
| C705 | 0659801 | 0.01 μ F 150V M.C. |
| C707~714 | 0602109 | 1.0 μ F 100V M.C. |
| R701, 702 | 0202221 | 220 Ω 2W N.I.R. |
| CO701~703 | 2450060 | AC Outlet XX |
| | 5066280 | AC Outlet EU, BS |
| | 2290190 | Speaker Terminal |
| | 3800010 | Power Cord XX |
| | 3800190 | Power Cord EU |
| | 3800320 | Power Cord BS |
| | 2300060 | Power Fuse Holder XX |
| | 2300090 | Power Fuse Holder EU, BS |
| | 2410091 | Voltage Selector Plug XX |
| | 2410830 | Voltage Selector Socket XX |

| Parts No. | Stock No. | Description |
|--------------------|-----------|-------------------------------|
| | 2411240 | Voltage Selector SW EU, BS |
| | 2230052 | Ground Terminal |
| AU-517 Only | | |
| TR701, 702 | 0306450~2 | 2SC1403A R, O, Y } Transistor |
| TR703, 704 | 0300830~2 | 2SA745A R, O, Y } |
| C701~704 | 0559518 | 12000 μ F 63V E.C. |
| T701, 702 | 4002590 | Power Transformer XX |
| | 4002594 | Power Transformer EU, BS |
| | 4002592 | Power Transformer UL, CSA |
| F701 | 0432270 | 3.5A 125V } Power Fuse XX |
| | 0432500 | 7A 125V } |
| | 0435140 | 2.5A Power Fuse EU, BS |

| Parts No. | Stock No. | Description |
|--------------------|-----------|------------------------------|
| AU-717 Only | | |
| TR701, 702 | 0305840~2 | 2SC1116 R, O, Y } Transistor |
| TR703, 704 | 0300520~2 | 2SA747 R, O, Y } |
| C701~704 | 0559520 | 15000 μ F 63V E.C. |
| T701, 702 | 4002580 | Power Transformer XX |
| | 4002584 | Power Transformer EU, BS |
| | 4002582 | Power Transformer UL, CSA |
| F701 | 0432290 | 5A 125V } Power Fuse XX |
| | 0434060 | 10A 250V } |
| | 0435150 | 3.15A Power Fuse EU, BS |

5-2. Front View <AU-717>



Parts List <AU-517/717>

| Parts No. | Stock No. | Description |
|-----------|---------------------------------|---|
| 1 | { 5318850 1015170, 1 | N-7 Type Knob 250k Ω (MN) \times 2 Balance Volume L=25 P=5 |
| 2 | { 5318840 1015230, 1 | K-7 Type Knob 100k Ω (C) \times 2 Treble, Bass Volume L=25 P=7 |
| 3 | { 5318840 1101780, 1 | K-7 Type Knob Rotary Switch, Speakers |
| 4 | { 5318840 1190410 | K-7 Type Knob Rotary Switch, Tape Copy |
| 5 | { 5318830 1190410 | I-7 Type Knob Rotary Switch, Input Selector |
| 8 | { 5326611 1171150 | Lever Switch Knob Lever Switch, Tone Defeat |
| 9 | { 5326611 1171630 1171610 | Lever Switch Knob Lever Switch, Power Lever Switch, Power EU, BS |

| Parts No. | Stock No. | Description |
|--------------------|---------------------------------|---|
| 10 | { 5326620 5286721 1131400 | Push Switch Knob Knob Guide Push Switch, Tape Play |
| 11 | 2430290 | Head Phone Jack |
| 12 | 5006670 | Bonnet |
| 13 | 5336600 | Sansui Badge |
| 14 | 0319110 5507070 | Light Emitted Diode Leg |
| AU-517 Only | | |
| 6 | { 5326611 1171120 | Lever Switch Knob Lever Switch, Loudnes |
| 7 | { 5326611 1171120 | Lever Switch Knob Lever Switch, Subsonic Filter |
| 15 | { 5318860 1090250 | H-7 Type Knob 150k Ω \times 2 Volume L=25 P=7 |
| 19 | 7007580 | Front Panel Ass'y |
| 20 | 5058740 | Bottom Plate |

| Parts No. | Stock No. | Description |
|--------------------|---------------------------------|---|
| AU-717 Only | | |
| 6 | { 5326611 1171130 | Lever Switch Knob Lever Switch, Loudnes |
| 7 | { 5326611 1171130 | Lever Switch Knob Lever Switch, Subsonic Filter |
| 15 | { 5318860 1090280 | H-7 Type Knob 150k Ω \times 2 Volume L=25 P=9 |
| 16 | { 5326611 1171120 | Lever Switch Knob Lever Switch, Muting |
| 17 | { 5326611 1171130 | Lever Switch Knob Lever Switch, High Filter |
| 18 | { 5326620 5286721 1131400 | Push Switch Knob Knob Guide Push Switch, Turn Over |
| 19 | 7007570 | Front Panel Ass'y |
| 20 | 5058730 | Bottom Plate |
| 21 | 0319110 | Light Emitted Diode |

Figures

Connectors & Pin Ass'y

Connectors

| Type A (3~10 pins) | Type B (2~6 pins) | Stock No. |
|--------------------|-------------------|---------------------|
| | | 2 Pins 2420450 |
| | | 3 Pins 2420460 |
| | | 3 Pins (RD) 2420650 |
| | | 4 Pins 2420470 |
| | | 5 Pins 2420480 |
| | | 6 Pins 2420490 |

NOTE: Since stock number of female connectors (type B) with wires are not shown in each parts list of Complete circuit board, please refer to the above parts list when ordering the connector.

Pin Ass'y

| Type A (3~10 pins) | Type B (3~10 pins) | Type C (3~10 pins) |
|--------------------|--------------------|--------------------|
| | | |
| Type D (2~6 pins) | Type E (2~6 pins) | Type F (2~6 pins) |
| | | |

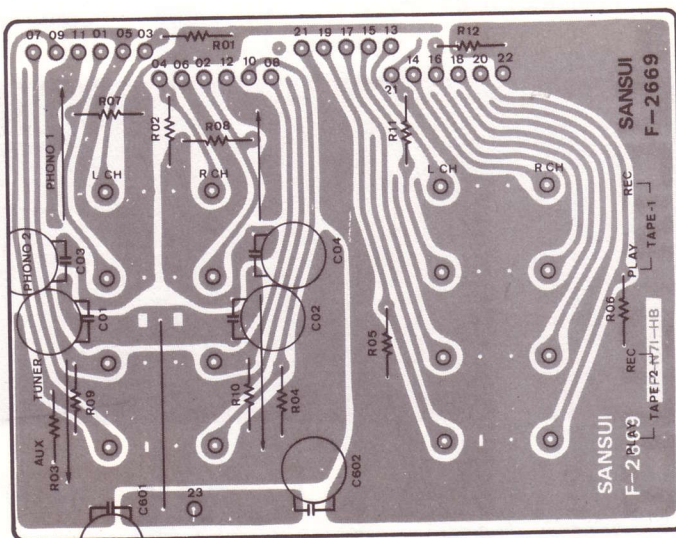
Abbreviations

| | |
|--|--|
| C.R. : Carbon Resistor | E.C. : Electrolytic Capacitor |
| S.R. : Solid Resistor | BP.E.C. : Bi-Polar Electrolytic Capacitor |
| Ce.R. : Cement Resistor | C.C. : Ceramic Capacitor |
| M.R. : Metal Film Resistor | Mi.C. : Mica Capacitor |
| F.R. : Fusing Resistor | O.C. : Oil Capacitor |
| N.I.R. : Non-Inflammable Resistor | P.C. : Polystyrene Capacitor |
| M.C. : Mylar Capacitor | T.C. : Tantalum Capacitor |

6. PARTS LOCATION & PARTS LIST

6-1. F-2669 Input Terminal Circuit Board (AU-517 Stock No. 7595201) (AU-717 Stock No. 7595171)

Conductor Side

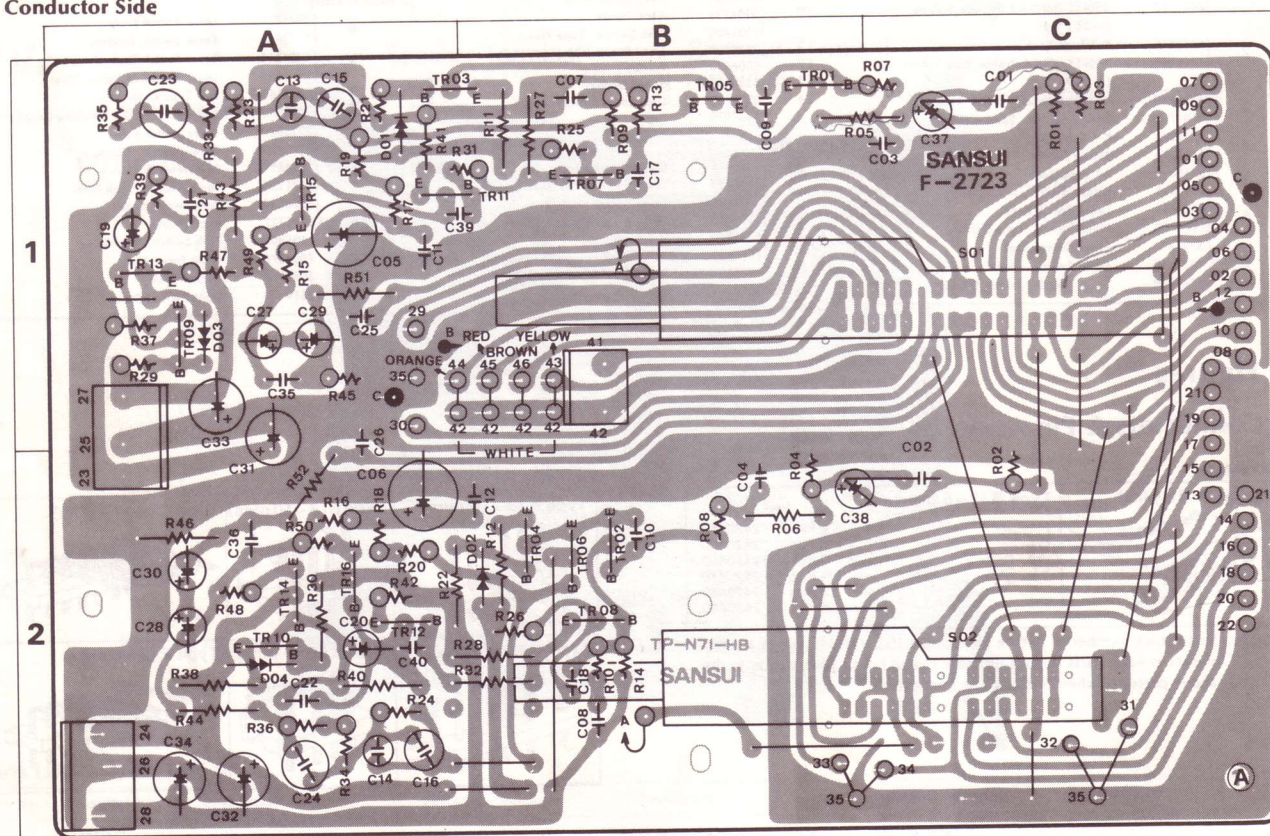


Parts List

| Parts No. | Stock No. | Description |
|-----------|-----------|-------------------|
| | 2200480 | 8P Input Terminal |

6-2. F-2723 Equalizer Circuit Board (AU-517 Stock No. 7551171) (AU-717 Stock No. 7551161)

Conductor Side



Parts List

| Parts No. | Stock No. | Description | Position |
|-----------|------------|-------------------|----------|
| TR01, 02 | 0300900, 1 | 2SA906 (G, H) | 1 B, 2 B |
| TR03, 04 | 0300470, 1 | 2SA726(W) (F, G) | 1 A, 2 B |
| TR05, 06 | 0300900, 1 | 2SA906 (G, H) | 1 B, 2 B |
| TR07, 08 | 0306290, 1 | 2SC1400(I) (E, U) | 1 B, 2 B |
| TR09, 10 | 0300890, 1 | 2SA750(3) (E, U) | 1 A, 2 A |
| TR11, 12 | 0306290, 1 | 2SC1400(I) (E, U) | 1 A, 2 A |
| TR13, 14 | 0306290, 1 | 2SC1400(I) (E, U) | 1 A, 2 A |
| TR15, 16 | 0300890, 1 | 2SA750(3) (E, U) | 1 A, 2 A |
| DO1, 02 | 0340120 | VD1212 | 1 A, 2 B |
| DO3, 04 | 0340120 | VD1212 | 1 A, 2 A |

| Parts No. | Stock No. | Description | Position |
|-----------|-----------|-----------------|----------|
| CO1, 02 | 0602109 | 1.0μF 100V M.C. | 1 C, 2 C |
| CO7, 08 | 0620121 | 120pF | 1 B, 2 B |
| CO13, 14 | 0620151 | 150pF | 1 A, 2 A |
| CO15, 16 | 0625272 | 2700pF | 1 A, 2 A |
| C23, 24 | 0625103 | 10000pF | 1 A, 2 A |
| R17, 18 | 0231561 | 560Ω | 1 A, 2 A |
| R19, 20 | 0231220 | 22Ω | 1 A, 2 A |
| R23, 24 | 0231273 | 27kΩ | 1 A, 2 A |
| R33, 34 | 0231153 | 15kΩ | 1 A, 2 A |
| R35, 36 | 0231304 | 300kΩ | 1 A, 2 A |

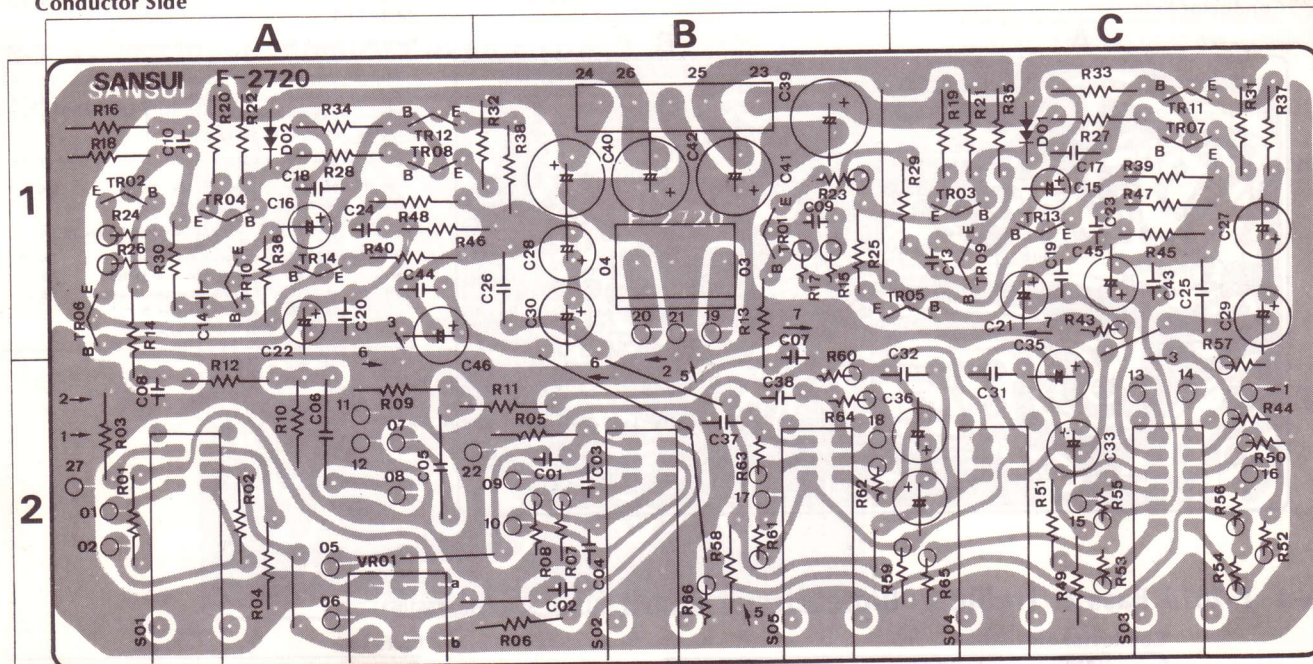
| Parts No. | Stock No. | Description | Position |
|-----------|-----------|-------------------------|----------|
| R47, 48 | 0193820 | 82Ω 1/4W F.R. | 1 A, 2 A |
| R49, 50 | 0193820 | 82Ω 1/4W F.R. | 1 A, 2 A |
| S01 | 1190420 | Input Rotary Switch | 1 B, C |
| S02 | 1190410 | Tape Copy Rotary Switch | 2 B, C |
| | 2410920 | 3P Pin Ass'y Type E | |

AU-717 Only

| | |
|---------|---------------------|
| 2410910 | 2P Pin Ass'y Type E |
|---------|---------------------|

6-7. F-2720 Tone Control Circuit Board (AU-717 Stock No. 7561941)

Conductor Side



Parts List

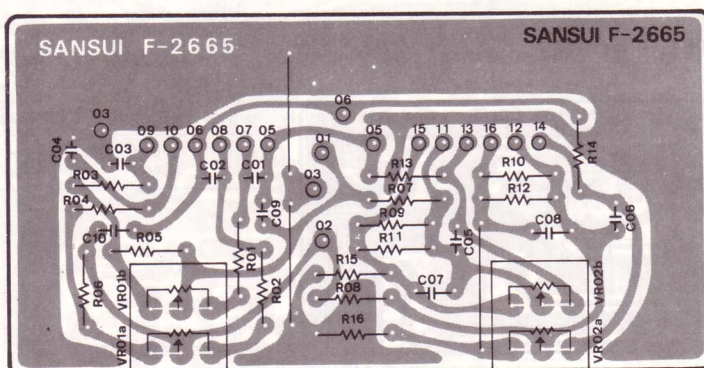
| Parts No. | Stock No. | Description | Position |
|-----------|------------|-------------------|------------|
| TR01, 02 | 0360370-2 | 2SA798 (F, G, H) | Transistor |
| TR03, 04 | 0300470, 1 | 2SA726(W) (F, G) | |
| TR05, 06 | 0306290, 1 | 2SC1400(1) (E, U) | |
| TR07, 08 | 0300890, 1 | 2SA750(3) (E, U) | |
| TR09, 10 | 0306290, 1 | 2SC1400(1) (E, U) | |
| TR11, 12 | 0306290, 1 | 2SC1400(1) (E, U) | |
| TR13, 14 | 0300890, 1 | 2SA750(3) (E, U) | |

| Parts No. | Stock No. | Description | Position |
|-----------|------------|--------------------------|----------|
| D01, 02 | 0340120 | VD1212 Varistor | 1 C. 1 A |
| C01, 02 | 0620361 | 360pF 50V P.C. | 2 B |
| C05, 06 | 0602338 | 0.33μF 100WV M.C. | 2 A |
| C09, 10 | 0620121 | 120pF 50V P.C. | 1 B. 1 A |
| R37, 38 | 0191820 | 82Ω | 1 C. 1 B |
| R39, 40 | 0191820 | 82Ω | 1 C. 1 A |
| VR01 | 1015170, 1 | 250kΩ(MN) × 2 Balance VR | 2 A |

| Parts No. | Stock No. | Description | Position |
|-----------|-----------|---------------------|----------|
| S01 | 1171130 | Muting SW | 2 A |
| S02 | 1171130 | Loudness SW | 2 B |
| S03 | 1171150 | Tone Defeat SW | 2 C |
| S04 | 1171130 | Subsonic Filter SW | 2 C |
| S05 | 1171130 | High Filter SW | 2 B |
| | 2410570 | 5P Pin Ass'y Type D | |
| | 2410920 | 3P Pin Ass'y Type E | |

6-8. F-2665 Bass & Treble Volume Circuit Board (AU-717 Stock No. 7561851)

Conductor Side

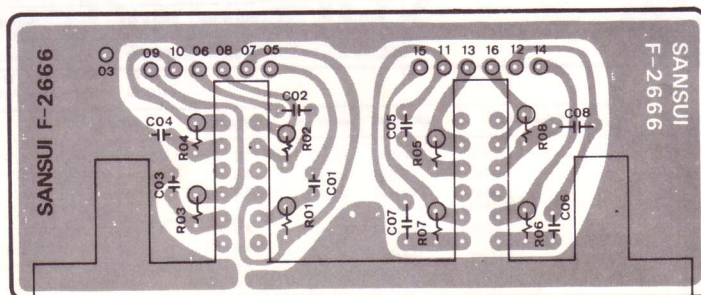


Parts List

| Parts No. | Stock No. | Description |
|-----------|------------|-----------------------------------|
| VR01, 02 | 1015230, 1 | 100kΩ (C) × 2 Treble, Bass Volume |

6-9. F-2666 Turn Over Switch Circuit Board (AU-717 Stock No. 7561871)

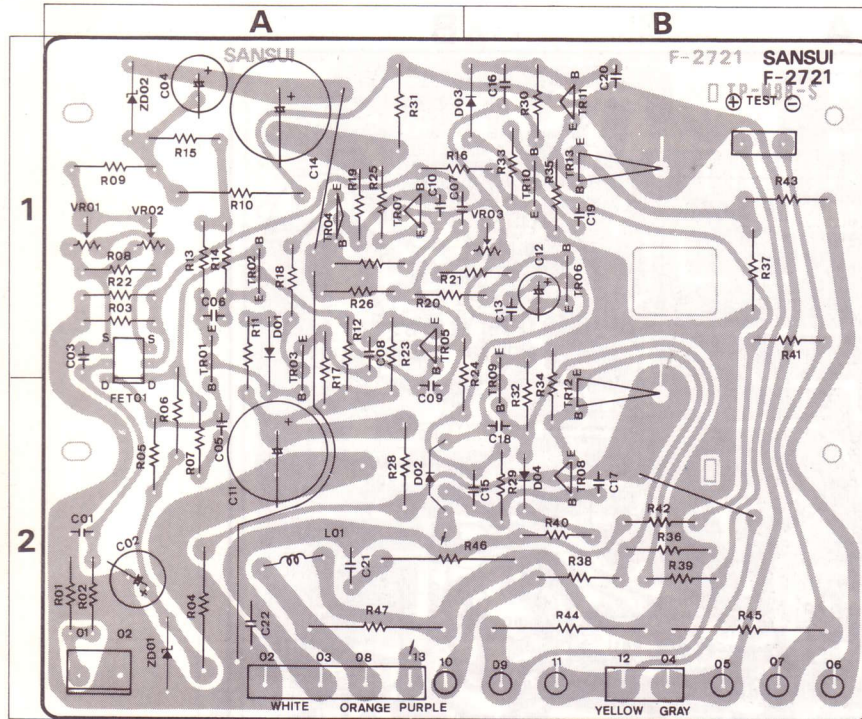
Conductor Side



Parts List

| Parts No. | Stock No. | Description |
|-----------|-----------|-------------------|
| S01 | 1131410 | Turn Over Push SW |

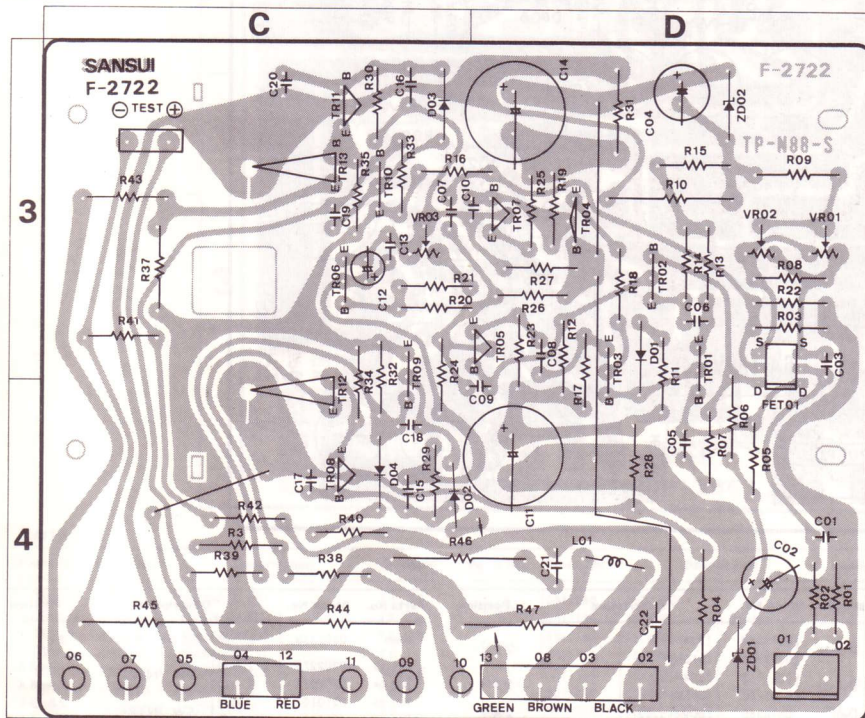
6-10. F-2721 Driver Circuit Board (L-CH) (AU-517 Stock No. 7571721)
Conductor Side (AU-717 Stock No. 7571741)



Parts List

| Parts No. | Stock No. | Description | Position |
|-----------|----------------------|-------------------|--------------|
| TR01 | 0306290, 1 | 2SC1400(1) (E, U) | 1A, 3D |
| TR02 | 0306290, 1 | 2SC1400(1) (E, U) | 1A, 3D |
| TR03 | 0300890, 1 | 2SA750(3) (E, U) | 1A, 3D |
| TR04 | 0300890, 1 | 2SA750(3) (E, U) | 1A, 3D |
| TR05 | 0300791, 2 | 2SA899 (B, V) | 1A, 3D |
| TR06 | 0305951, 2 | 2SC945 (Q, P) | 1B, 3C |
| TR07 | 0306401, 2 | 2SC1904 (B, V) | 1A, 3D |
| TR08 | 0306401, 2 | 2SC1904 (B, V) | 2B, 4C |
| TR09 | 0305951, 2 | 2SC945 (Q, P) | 1, 2B, 3, 4C |
| TR11 | 0300791, 2 | 2SA899 (B, V) | 1B, 3C |
| TR12 | 0308441-3 | 2SD382 (M, L, K) | 2B, 4C |
| TR13 | 0303271, 2 | 2SB537 (M, L, K) | 1B, 3C |
| FT01 | 0370251, 2 | 2SK97 FET | |
| D01 | 0311160 | 1S2473D | 1A, 3D |
| D02 | 0311160 | 1S2473D | 2A, 4C |
| D03 | 0311160 | 1S2473D | 1B, 3C |
| D04 | {0311160 0311180} | 1S2473D 1S1588 | 2B, 4C |
| ZD01 | 0316170 | EQB01-22 | 2A, 4D |
| ZD02 | 0316170 | EQB01-22 | 1A, 3D |
| C01 | 0620101 | 100pF | 2A, 4D |
| C05 | 0620331 | 330pF | 2A, 4D |
| C07 | 0669505 | 5pF | 1B, 3C |
| R04 | 0202222 | 2.2kΩ 2W N.I.R. | 2A, 4D |
| R05 | 0231332 | 3.3kΩ | 2A, 4D |
| R06 | 0231332 | 3.3kΩ 1/2W M.R. | 2A, 4D |
| R09 | 0103392 | 3.9kΩ 1/2W C.R. | 1A, 3D |
| R10 | 0202152 | 1.5kΩ 2W N.I.R. | 1A, 3D |
| R28 | 0210470 | 47Ω | 2A, 4D |
| R31 | 0210470 | 47Ω 1/2W N.I.R. | 1A, 3D |
| R36 | 0103560 | 56Ω | 2B, 4C |
| R37 | 0103560 | 56Ω | 1B, 3C |
| R38 | 0103479 | 4.7Ω 1/2W C.R. | 2B, 4D |
| R43 | 0103479 | 4.7Ω | 1B, 3C |
| R44 | 0135338 | 0.33Ω | 2B, 4C |
| R45 | 0135338 | 0.33Ω 5W Ce.R. | 2B, 4C |
| R46 | 0202100 | 10Ω 2W N.I.R. | 2A, 4C, D |
| R47 | 0132229 | 2.2Ω 2W Ce.R. | 2A, 4C |
| L01 | 4210290 | 1.5μH Coil | 2A, 4D |
| VR01 | 1033570 | 100Ω (B) Volume | 1A, 3D |
| VR02 | 1035330 | 2.2kΩ (B) Volume | 1A, 3D |
| VR03 | 1035310 | 1kΩ (B) Volume | 2A, 4D |

6-11. F-2722 Driver Circuit Board (R-ch) (AU-517 Stock No. 7571731)
Conductor Side (AU-717 Stock No. 7571751)



AU-517 Only

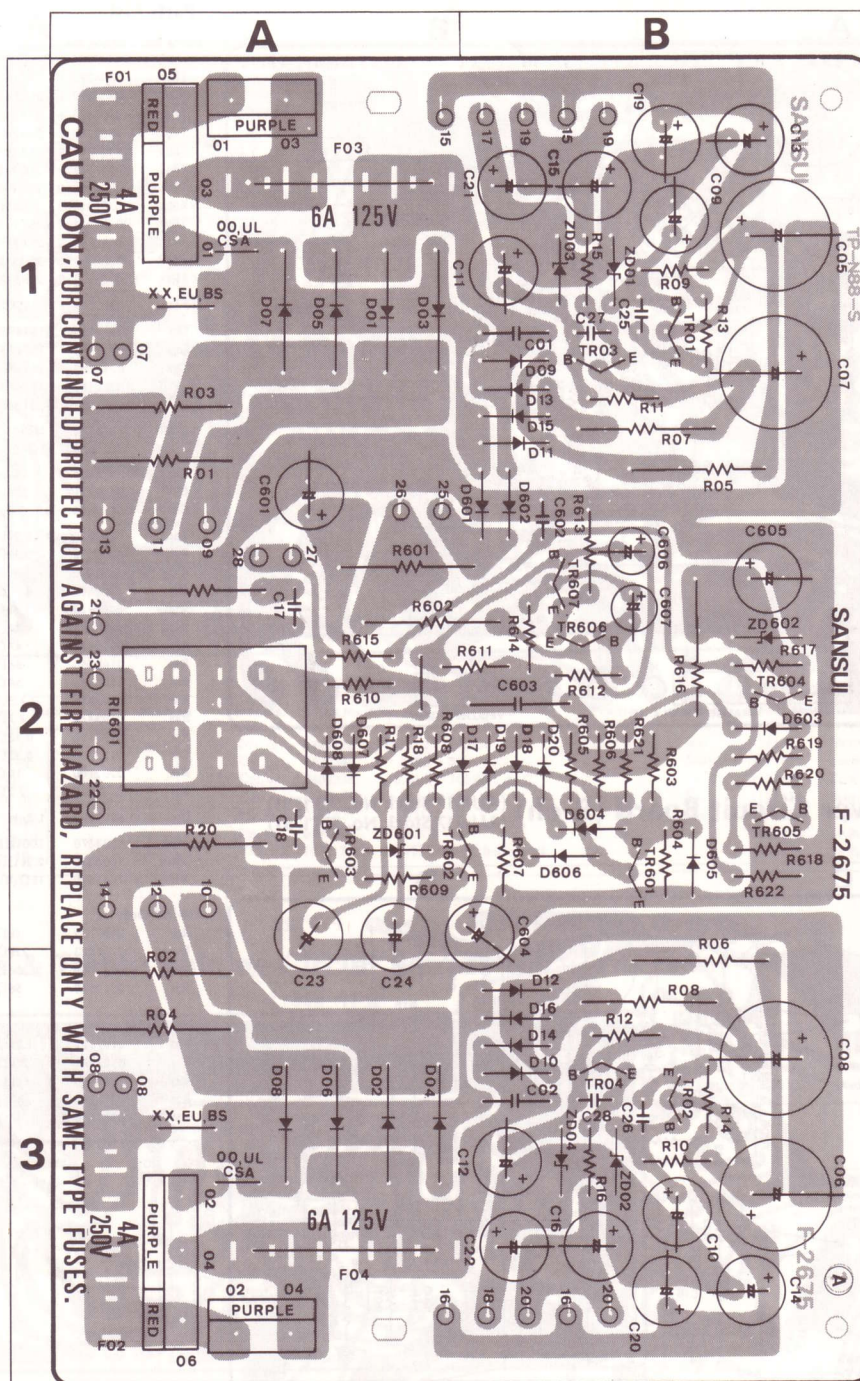
| | | | | |
|-----|---------|------|-------------|---------------|
| R03 | 0107102 | 1kΩ | 1/4W C.R. | 1A, 3D |
| R16 | 0107223 | 22kΩ | 1/4W C.R. | 1A, 3D, 3C, D |
| R28 | 0210560 | 56Ω | 1/2W N.I.R. | 2A, 4D |
| R31 | 0210560 | 56Ω | 1/2W N.I.R. | 1A, 3D |

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| | | | | |
|-----|---------|-------|-------------|---------------|
| R03 | 0107122 | 1.2kΩ | | 1A, 3D |
| R16 | 0107273 | 27kΩ | 1/4W C.R. | 1A, 3D, 3C, D |
| R22 | 0107103 | 10kΩ | | 1A, 3D |
| R28 | 0210470 | 47Ω | 1/2W N.I.R. | 2A, 4D |
| R31 | 0210470 | 47Ω | 1/2W N.I.R. | 1A, 3D |

6-12. F-2675 Power Supply & Protector Circuit Board (AU-517 Stock No. 7502331)

Conductor Side

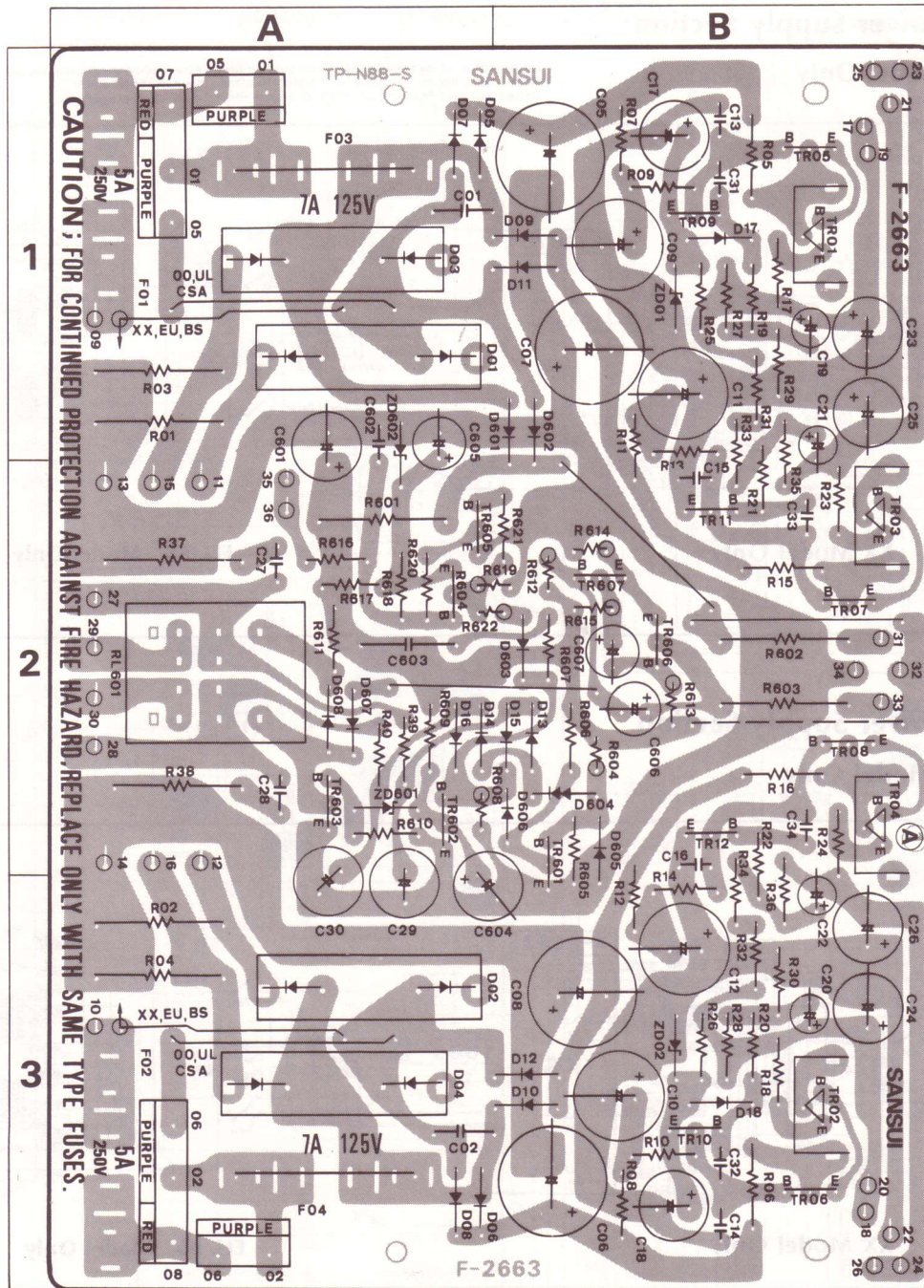


Parts List

| Parts No. | Stock No. | Description | Position | Parts No. | Stock No. | Description | Position | Parts No. | Stock No. | Description | Position |
|-----------|------------|---------------|----------|-----------|-----------|-------------------|----------|-----------|-----------|----------------------------|--------------|
| TR01, 02 | 0308521, 2 | 2SD438 (E, F) | 1 B, 3 B | D17-18 | 0311160 | 152473D | 2 B | C603 | 0602338 | 0.33μF 100WV M.C. | 2 B |
| TR03, 04 | 0303361, 2 | 2S8560 (E, F) | 1 B, 3 B | D19-20 | 0311180 | 152473D | 2 B | R01, 02 | 0202272 | 2.7kΩ | 1 A, 3 A |
| TR601 | 0305951, 2 | 25C945 (Q, P) | 2 B | | 0311180 | 151588 | | R03, 04 | 0202272 | 2.7kΩ | 2 W N.I.R. |
| TR602 | 0305951, 2 | 25C945 (Q, P) | 2 B | D401 | 0310350 | 10D2 (152227) | 2 A | R05, 06 | 0210101 | 100Ω | 2 B, 3 B |
| TR603 | 0305951, 2 | 25C945 (Q, P) | 2 A | D402 | 0310350 | 10D2 (152227) | 2 A | R07, 08 | 0210101 | 100Ω | 1/2 W N.I.R. |
| TR604 | 0300510, 1 | 25A733 (P, Q) | 2 B | D603 | 0311160 | 152473D | 2 B | R19, 20 | 0202100 | 10Ω | 2 A |
| TR605 | 0305951, 2 | 25C945 (Q, P) | 2 B | D604 | 0311160 | 152473D | 2 B | R601 | 0202391 | 390Ω | 2 W N.I.R. |
| TR606 | 0305951, 2 | 25C945 (Q, P) | 2 B | D605 | 0311160 | 152473D | 2 B | R602 | 0202222 | 2.2kΩ | 2 B |
| TR607 | 0305951, 2 | 25C945 (Q, P) | 2 B | D606 | 0311160 | 152473D | 2 B | R616 | 0210472 | 4.7kΩ 1/2 W N.I.R. | 2 B |
| D01, 02 | 0311530 | 30D2 | 1 A, 3 A | D607 | 0311160 | 152473D | 2 B | RL601 | 1150250 | Relay | 2 A |
| D03, 04 | 0311530 | 30D2 | 2 A | D608 | 0310340 | 10D1 (152226) | 2 A | | 1150370 | Relay | |
| D05, 06 | 0311530 | 30D2 | 1 A, 3 A | ZD01, 02 | 0316570 | RD33E (B) | 1 B, 3 B | F01, 02 | 0435160 | 4A 125V Power fuse UL, CSA | 1 B, 3 B |
| D07, 08 | 0311530 | 30D2 | 1 A, 3 A | ZD03, 04 | 0316570 | RD33E (B) | 1 B, 3 B | | 0432300 | 6A 125V AC fuse XX | |
| D09, 10 | 0310350 | 10D2 (152227) | 1 B, 3 B | ZD601 | 0315760 | EGA01-06R | 2 B | | 0435160 | 4A-T AC fuse EU, BS | |
| D11, 12 | 0310350 | 10D2 (152227) | 1 B, 3 B | ZD602 | 0316390 | RD6.2E (B) | 2 B | | 2310220 | Fuse Holder XX | |
| D13, 14 | 0310350 | 10D2 (152227) | 1 B, 3 B | | | | | | 2310230 | Fuse Holder EU, BS | |
| D15, 16 | 0310350 | 10D2 (152227) | 3 B, 3 B | C01-02 | 0655103 | 10000pF 500V C.C. | 1 B, 3 B | | | | |

6-13. F-2663 Power Supply & Protector Circuit Board (AU-717 Stock No. 7502321)

Conductor Side



Parts List

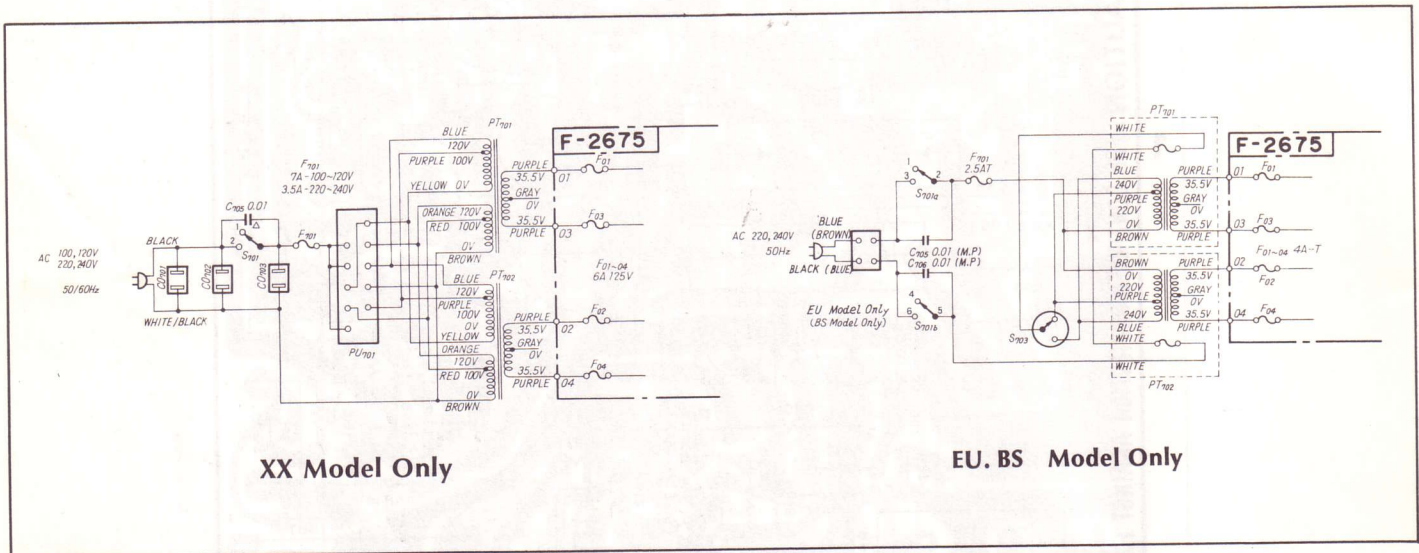
| Parts No. | Stock No. | Description | Position | Parts No. | Stock No. | Description | Position | Parts No. | Stock No. | Description | Position | | |
|-----------|------------|-----------------|------------|-----------|---------------|---------------|----------|-------------|-----------|----------------------------|-----------|--------------|-----|
| TR01, 02 | 0308451, 2 | 2SD356 (D, E) | 1 B, 3 B | D13-14 | 0311160 | 1S2473D | 1 B, 1 A | C01, 02 | 0655103 | 10000pF | 500V C.C. | 1 A, 3 A | |
| TR03, 04 | 0303281, 2 | 2SB526 (D, E) | | | 0311180 | 1S1588 | | C03, 04 | 0655103 | 10000pF | | 1 A, 3 A | |
| TR05, 06 | 0306270, 1 | 2SC1708 (E, U) | | D15-16 | 0311160 | 1S2473D | C603 | 0602338 | 0.33μF | 100WV M.C. | 2 B | | |
| TR07, 08 | 0300710, 1 | 2SA847(I)(F, G) | | | 0311180 | 1S1588 | R01, 02 | 0202332 | 3.3kΩ | 2 W N.I.R. | 1 A, 3 A | | |
| TR09, 10 | 0306270, 1 | 2SC1708 (F, G) | D17-18 | 0311160 | 1S2473D | R03, 04 | | 0202332 | 3.3kΩ | | 1 A, 3 A | | |
| TR11, 12 | 0300710, 1 | 2SA847 (F, G) | | 0311180 | 1S1588 | R05, 06 | | 0210101 | 100Ω | | 1 B, 3 B | | |
| TR601 | 0305951, 2 | 2SC945 (Q, P) | Transistor | D601 | 0310350 | 10D2 (1S2227) | | 2 A | R15, 16 | | 0210101 | 100Ω | 2 B |
| TR602 | 0305951, 2 | 2SC945 (Q, P) | | D602 | 0310350 | 10D2 (1S2227) | 2 A | R37, 38 | 0202100 | 10Ω | 2 A | | |
| TR603 | 0305951, 2 | 2SC945 (Q, P) | | D603 | 0311160 | 1S2473D | 2 B | R601 | 0202391 | 390Ω | 2 B | | |
| TR604 | 0300510, 1 | 2SA733 (P, Q) | | D604 | 0340120 | VD1212 | 2 B | R602 | 0202272 | 2.7kΩ | 2 B | | |
| TR605 | 0305951, 2 | 2SC945 (Q, P) | | D605 | 0311160 | 1S2473D | 2 B | | R603 | 0202272 | 2.7kΩ | 2 B | |
| TR606 | 0305951, 2 | 2SC945 (Q, P) | | D606 | 0311160 | 1S2473D | 2 B | | R617 | 0210472 | 4.7kΩ | 1/2 W N.I.R. | 2 A |
| TR607 | 0305951, 2 | 2SC945 (Q, P) | | D607 | 0311160 | 1S2473D | 2 B | | RL601 | 1150250 | Relay | 2 A | |
| D01, 02 | 0311290 | SS-3 | D608 | 0310340 | 10D1 (1S2226) | 2 A | 1150370 | Relay | | | | | |
| D03, 04 | 0311300 | SS-3R | 1 A, 3 A | D609 | 0340120 | VD1212 | Varistor | F01, 02 | 0432290 | 5A 125V Power fuse UL, CSA | 1 A, 3 A | | |
| D05, 06 | 0310350 | 10D2 (1S2227) | 1 A, 3 A | D610 | 0340120 | VD1212 | | F01-04 | 0432500 | 7A 125V AC fuse XX | 1 A, 3 B | | |
| D07, 08 | 0310350 | 10D2 (1S2227) | 1 A, 3 A | ZD01, 02 | 0316310 | RD-13E (B) | | Zener Diode | 0435170 | 5A-T AC fuse EU, BS | | | |
| D09, 10 | 0310350 | 10D2 (1S2227) | 1 A, 3 A | ZD601 | 0315760 | EQA01-06R | 2 A | | 2310220 | Fuse Holder XX | | | |
| D11, 12 | 0310350 | 10D2 (1S2227) | 1 A, 3 A | ZD602 | 0316390 | RD-6.2E (B) | 1 A | | 2310230 | Fuse Holder EU, BS | | | |

7. SCHEMATIC DIAGRAM

7-1. AU-517 Power Supply Section

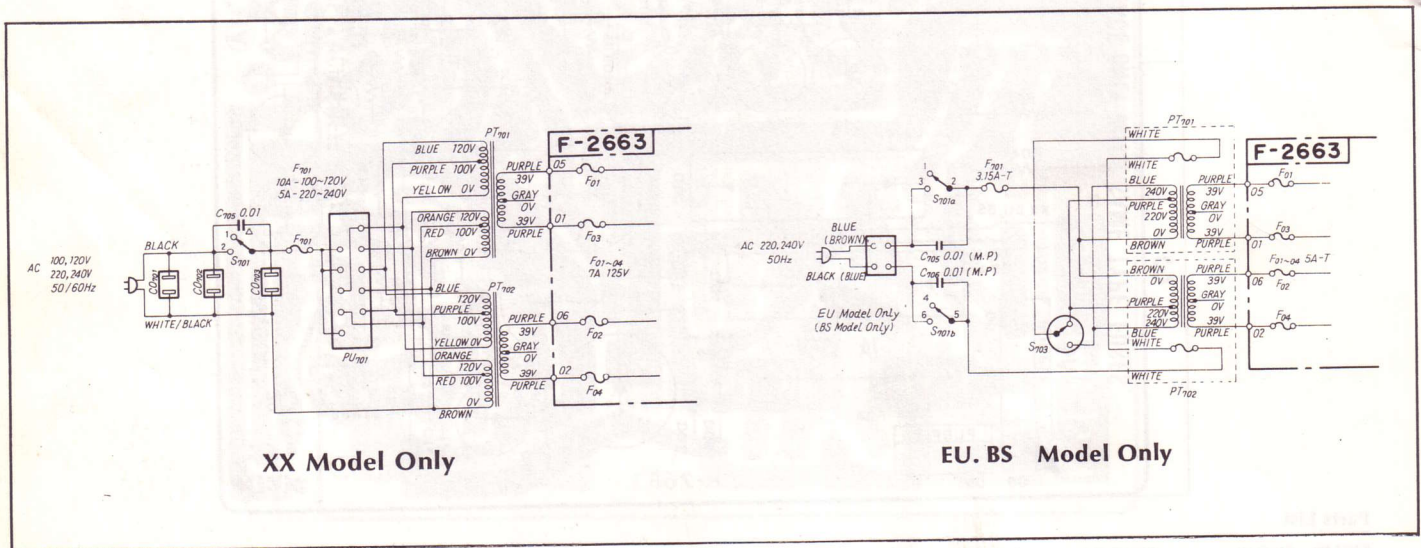
XX EU. BS Model Only

- La présentation et les spécifications sont susceptibles d'être modifiées sans préavis par suites d'améliorations éventuelles.
- Änderungen, die dem technischen Fortschritt dienen, bleiben vorbehalten.
- Design and specifications subject to change without notice for improvement.



7-2. AU-717 Power Supply Section

XX EU. BS Model Only

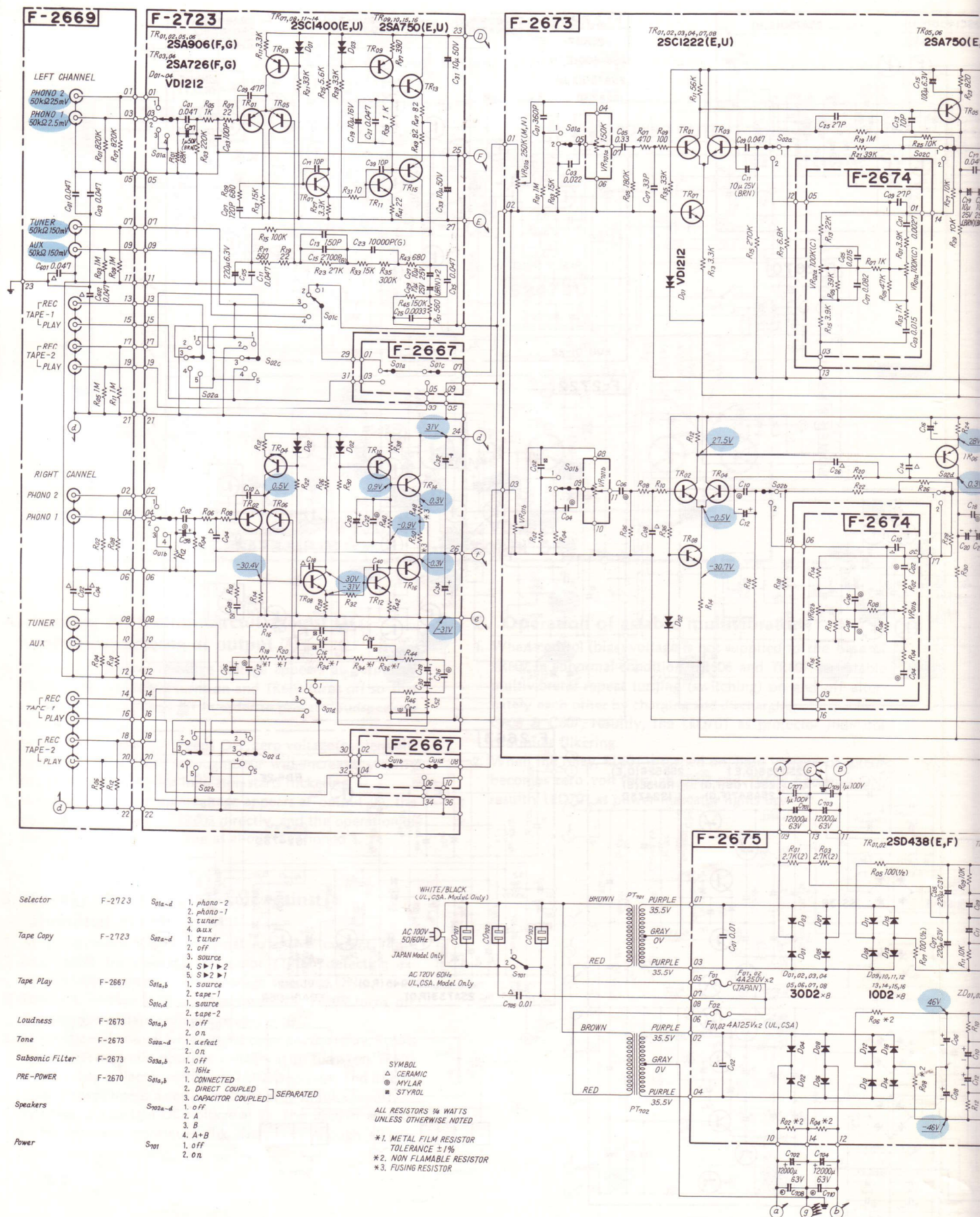


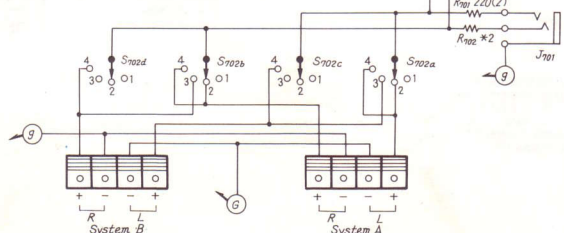
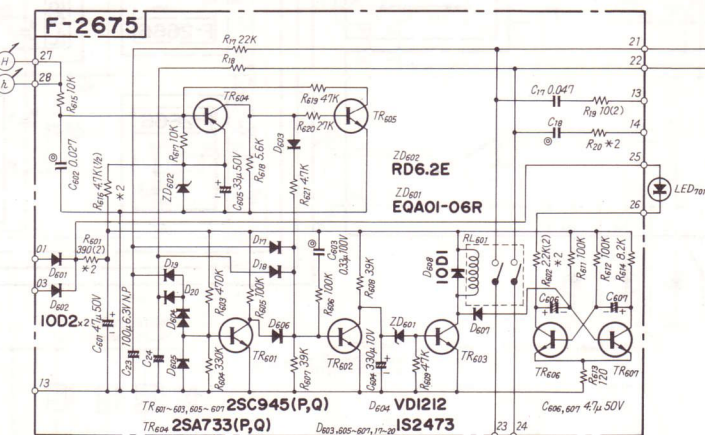
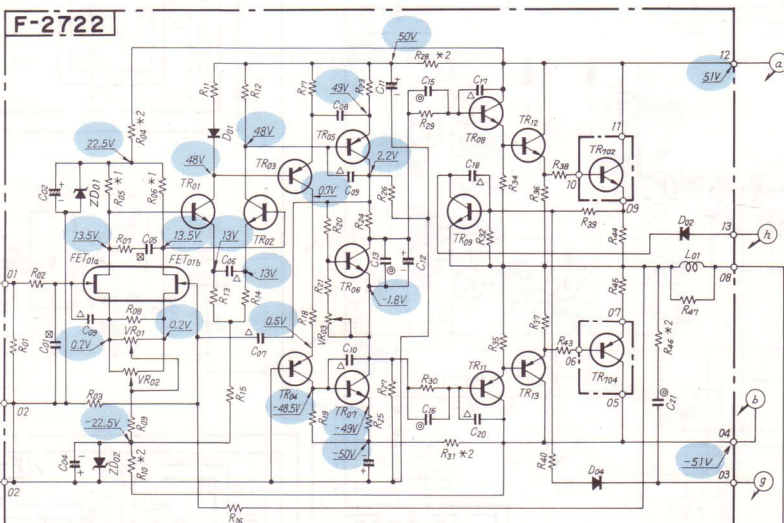
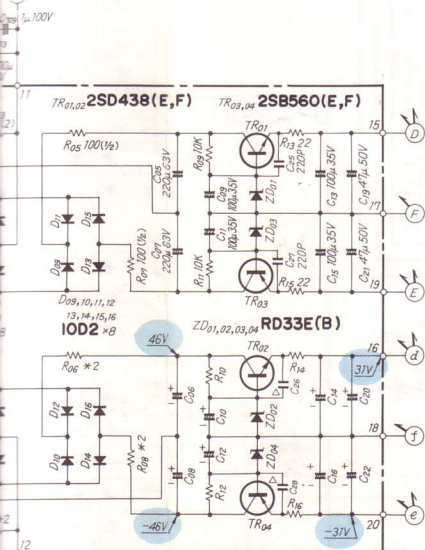
NOTE:

AS to U.L., C.S.A., B.S., ES and XX marked in the Parts Lists, note the followings:
 U.L., C.S.A. Approved parts used in the unit which is applicable to the U.S. and Canada under safety standard.
 B.S. Approved parts used in the unit which is applicable to British under safety requirement.
 E.U. Approved parts used in the unit which is applicable to Sweeden, Denmark, Norway, Finland, West Germany, and Switzerland under safety requirement.
 XX Parts used in the unit which is applicable to other countries excepting mentioned above.

※ In parts lists, parts with no above mark in of "Description" are all the same as XX marked parts.

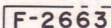
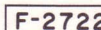
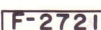
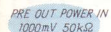
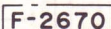
7-3. AU-517





BIAS CURRENT
30 mA (TP to TP 20 mV)
SPEAKERS
65 W + 65 W / 8Ω
PHONES
80 mW + 80 mW / 8Ω
BOTH CHANNEL DRIVEN
AT 1000 Hz





2

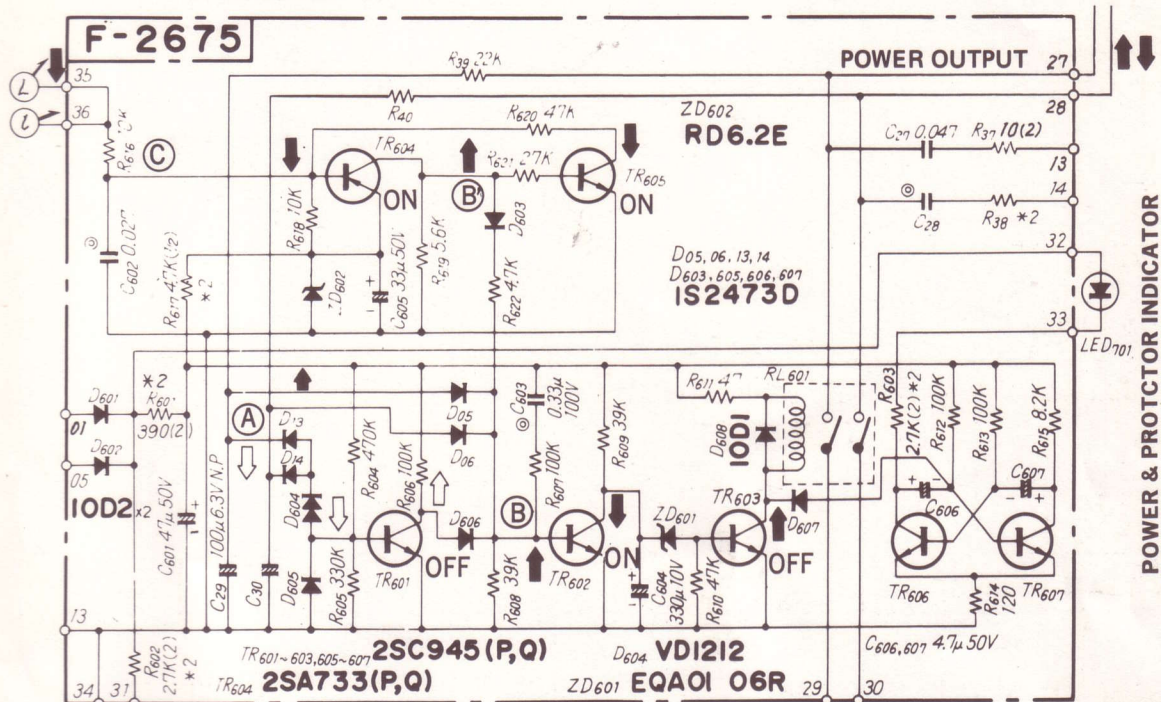
3

4

5

8. OPERATION OF PROTECTOR CIRCUIT

This protector circuit contains two functions at abnormal condition; a *speaker protector circuit against DC voltage* appearing at output, and *speaker protector circuit against over-current*.



A. Speaker Protection Circuit against DC voltage appearing at output (A)

1. When an abnormal negative voltage appears at output (A), TR601 turns off, TR602 turns on and TR603 turns off so that the relay, RL601, keeps off in order to protect loudspeakers from break-down.
2. While the relay, RL601, keeps OFF, zero voltage (center voltage) controlling TR607 through D607 will increase, resultly the LED701 as protector indicator, starts flickering.
3. When abnormal positive voltage appears at output (A), the voltage is supplied to TR602 directly, and the operation of the protector circuit is same as above mentioned 1.

B. Speaker Protection Circuit against abnormal over-current

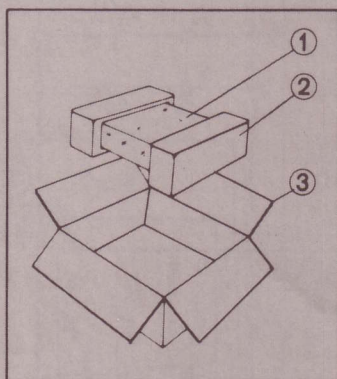
1. At the moment when abnormal excessive current flows into power transistors, a transistor (TR09) detecting excessive over-current, on power stage becomes ON.
2. Then, DC voltage at (C) decreases, resultly TR604 turns on, and positive certain voltage appears at (B').
3. As mentioned above, when TR602 turns on, the relay, RL601, keeps OFF; a certain positive voltage at (B') turns on TR605 too, resultly collector voltage of TR605 decreases and its collector voltage keeps a certain voltage at (C) simultaneously.
4. By keeping a certain DC voltage at (C), the LED701 as protector indicator continues flickering, even though all circuits work completely.

C. Operation of astable multivibrator

1. When control (bias) voltage is not supplied to the base of TR607 in abnormal condition, TR606 and TR607, on astable multivibrator repeat turning (switching) on and off alternately each other by charging and discharging of capacitors, C606 & C607, resultly, the LED701 as protector indicator continues flickering.
2. When the relay, RL601 is turned on, base voltage of TR607 becomes zero volt through D607 and TR606 becomes ON, resultly LED701 as power indicator lights up.

9. PACKING LIST

| Parts No. | Stock No. | Description |
|-----------|-----------|-----------------------|
| 1 | 9116670 | Vinyl Cover |
| 2 | { 9028020 | Stylofoam Packing (L) |
| | { 9028030 | Stylofoam Packing (R) |
| 3 | { 9009710 | Cartom Case (AU-717) |
| | { 9009700 | Cartom Case (AU-517) |



10. ACCESSORY PARTS LIST

| Stock No. | Description |
|-----------|---------------------------------|
| 9202520 | Operating Instructions (AU-517) |
| 9202500 | Operating Instructions (AU-717) |
| 5192082 | Hexagon Wrench (1.5mm) |
| 9116580 | Vinyl Bag For Wrench |
| 9237540 | Schematic Diagram (AU-517) |
| 9237550 | Schematic Diagram (AU-717) |
| 5396340 | Rack Mounting Adaptor (each) |
| 5216100 | Rear Stand (each) |

MEMO



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